What is claimed:

1. An insulation product comprising:

a mat containing randomly oriented fibers bonded by a binder, said mat having first and second major surfaces and a pair of side portions; and

at least one flexible reinforcing layer bonded to said mat between said first and second major surfaces and extending along a length of said mat.

2. The insulation product of claim 1, wherein said reinforcing layer comprises a nonwoven sheet comprising randomly oriented glass fibers.

3. The insulation product of claim 1, wherein said mat comprises a plurality of flexible reinforcing layers disposed between said first and second major surfaces and extending along a length of said mat.

4. The insulation product of claim 3, wherein said plurality of reinforcing layers comprises at least two reinforcing layers disposed substantially parallel to said first and second major surface and each other.

5. The insulation product of claim 4, wherein said at least two reinforcing layers are separated from each other by a layer of said randomly oriented fibers.

6. The insulation product of claim 4, wherein said at least two reinforcing layers are coupled together along respective faces, whereby said insulation product is separable at an interface of said at least two reinforcing layers to form at least two insulation products.

7. The insulation product of claim 1, further comprising a nonwoven sheet bonded to at least one of said first and second major surfaces.

8. The insulation product of claim 1, wherein said insulation mat comprises three stacked insulation layers each separated by at least one flexible reinforcing layer.

9. The insulation product of claim 8, wherein each of said insulation layers has an insulated effectiveness (R-value) between about R-2 to R-38.

10. The insulation product of claim 1, wherein said insulation mat comprises two stacked insulation layers separated by at least one reinforcing layer.

11. The insulation product of claim 10, wherein each of said insulation layers has an insulated effectiveness (R-value) between about R-2 to R-38.

12. The insulation product of claim 1, wherein said mat is heated to cure said binder at a temperature between about 300-600°F; and

wherein said reinforcing layer comprises randomly oriented fibers having a melting temperature above about said curing temperature, said nonwoven sheet being applied to said mat before said binder is cured.

13. The insulation product of claim 1, wherein said reinforcing layer comprises a nonwoven sheet comprising first randomly oriented fibers and second randomly oriented fibers, said first randomly oriented fibers having a melting point above about a temperature used in curing said mat and said second randomly oriented fibers having a melting point below about said temperature used in curing said mat, said nonwoven sheet bonded to said mat at least in part by a melt bond between said second randomly oriented fibers and said mat.

14. The insulation product of claim 13, wherein said first fibers of said nonwoven sheet comprise glass fibers and said second fibers of said nonwoven sheet comprise polymeric fibers.

15. The insulation product of claim 1, further comprising a vapor retarder facing layer disposed on at least one of said major surfaces.

16. The insulation product of claim 15, wherein said vapor retarder facing layer comprises a Kraft paper coated with a bituminous material or a polymeric facing coated with an adhesive.

17. A method of making an insulation product, comprising:

(a) forming a first uncured or partially cured insulation layer containing randomly oriented fibers and a binder agent;

(b) forming a second uncured or partially cured insulation layer containing randomly oriented fibers and a binder agent;

(c) disposing at least one flexible reinforcing layer between said first and second layers; and

(d) heating said uncured or partially cured layers and said reinforcing layer,

wherein said layers are bonded to form an insulation mat having a first and second major surfaces and a pair of side portions, and

wherein said at least one reinforcing layer is adhered to said insulation mat between said first and second major surfaces.

18. The method of claim 17 wherein said mat contains mineral fibers, rotary glass fibers, textile glass fibers, stonewool fibers, or a combination thereof.

19. The method of claim 17 wherein said forming step (a) and (b) comprise a low pressure forming process utilizing counter-rotating forming drums.

20. The method of claim 19,

wherein step (c) comprises applying said at least one reinforcing layer to a first major surface of said first layer,

said method further comprising applying a nonwoven layer comprising randomly oriented glass fibers to a second major surface of said first layer, whereby said nonwoven layer is bonded to a major surface of said insulation mat after heating step (d).

21. The method of claim 17, further comprising the step of applying a heat curable binder agent directly to a surface of said reinforcing layer.

22. The method of claim 17, further comprising the step of affixing a nonwoven sheet comprising randomly oriented glass fibers to at least one of said first and second major surfaces.

23. The method of claim 17, wherein said reinforcing layer comprises a nonwoven sheet.

24. The method of claim 23, wherein said nonwoven sheet comprises randomly oriented glass fibers.

25. The method of claim 17, wherein step (c) comprises disposing a plurality of flexible reinforcing layers between said first and second layers.

26. The method of claim 25,

wherein at least two reinforcing layers from said plurality of reinforcing layers are spaced from each other by a third uncured or partially cured insulation layer,

said method further comprising the steps of:

forming said third uncured or partially cured insulation layer; and

disposing said third insulation layer between said first and second insulation layers,

wherein a first one of said at least two reinforcing layers is disposed between said third layer and said first layer and a second one of said at least two reinforcing layers is disposed between said third layer and said second layer.

27. The method of claim 25, wherein each of said insulation layers has an insulated effectiveness (R-value) between about R-2 to R-38.

28. The method of claim 25, wherein said at least two reinforcing layers are coupled together along respective faces, whereby said insulation product is separable at an interface of said at least two reinforcing layers to form at least two insulation products.

29. The method of claim 17, further comprising the step of providing a first and second nonwoven sheets, wherein said nonwoven sheets are adhered to said first and second major surfaces of said insulation product.

30. The method of claim 17, wherein each of said insulation layers has an insulated effectiveness (R-value) between about R-2 to R-38.

31. The method of claim 17, wherein said heating step (d) comprises heating said mat at a temperature between about 300-600°F; and

said reinforcing layer comprises a nonwoven sheet comprising randomly oriented fibers having a melting temperature above about said curing temperature.

32. The method of claim 17, wherein said reinforcing layer comprises first randomly oriented fibers and second randomly oriented fibers, said first randomly oriented fibers having a melting point above about a temperature used in heating step (d) and said second randomly oriented fibers having a melting point below about said temperature used in heating step (d), said nonwoven sheet bonded to said mat at least in part by a melt bond between said second randomly oriented fibers and said randomly oriented fibers in said mat.

33. The method of claim 31, wherein said first fibers of said nonwoven sheet comprise glass fibers and said second fibers of said nonwoven sheet comprise polymeric fibers.

34. The method of claim 17, further comprising the step of adhering a vapor retarder facing layer on at least one of said major surfaces.

35. The method of claim 34, wherein said vapor retarder facing layer comprises a Kraft paper coated with a bituminous material or a polymeric facing coated with an adhesive.

36. An insulation product comprising:

a mat containing randomly oriented inorganic fibers bonded by a heat cured binder, said mat having a first and second major surfaces and a pair of side portions, said mat comprising a plurality of stacked insulation layers;

at least one nonwoven facing comprising randomly oriented glass fibers adhered to at least one of said first and second major surfaces; and

at least one nonwoven sheet comprising randomly oriented glass fibers disposed between said plurality of stacked insulation layers and extending along a length of said mat.

37. The insulation product of claim 36, wherein said mat comprises a plurality of nonwoven sheets comprising randomly oriented glass fibers disposed between said plurality of stacked insulation layers and extending along a length of said mat.

38. The insulation product of claim 37, wherein said mat comprises two insulation layers and two nonwoven layers from said plurality of nonwoven layers disposed therebetween.

39. The insulation product of claim 37, wherein said mat comprises at least three insulation layers and at least three nonwoven sheets from said plurality of nonwoven sheets disposed between said first and second major surfaces of said mat.

40. The insulation product of claim 37, wherein said plurality of nonwoven sheets comprises at least two nonwoven sheets coupled to each other along respective faces, whereby said insulation product is separable at an interface of said at least two nonwoven sheets to form at least two insulation products.

41. The insulation product of claim 36, further comprising a vapor retarder facing layer disposed on at least one of said major surfaces.

42. The insulation product of claim 41, wherein said vapor retarder facing layer comprises a Kraft paper coated with a bituminous material or a polymeric facing coated with an adhesive.

43. The insulation product of claim 36, wherein mat has a density of less than about 2.0 pounds per cubit foot.